



COFC CC
✓

PTO/SB/21 (09-04)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

8

Application Number

10/777,113 (U.S. Patent No. 6,876,944) **B2**

Filing Date

February 13, 2004 (Issued April 5, 2005)

First Named Inventor

MCGAUGHEY, Donald R. et al.

Art Unit

2863

Examiner Name

BHAT, Aditya S.

Attorney Docket Number

57064-A

ENCLOSURES (Check all that apply)



Fee Transmittal Form



Fee Attached



Amendment/Reply



After Final



Affidavits/declaration(s)



Extension of Time Request



Express Abandonment Request



Information Disclosure Statement



Certified Copy of Priority Document(s)



Reply to Missing Parts/
Incomplete Application



Reply to Missing Parts
under 37 CFR 1.52 or 1.53



Drawing(s)



Licensing-related Papers



Petition



Petition to Convert to a
Provisional Application



Power of Attorney, Revocation



Change of Correspondence Address



Terminal Disclaimer



Request for Refund



CD, Number of CD(s) _____



Landscape Table on CD



After Allowance Communication to TC



Appeal Communication to Board
of Appeals and Interferences



Appeal Communication to TC
(Appeal Notice, Brief, Reply Brief)



Proprietary Information



Status Letter



Other Enclosure(s) (please identify
below):

Letter - Request for Certificate of Correction

Certificate of Correction (Form PTO/SB/44)

Remarks

Certificate
AUG 26 2005
of Correction

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name

Kirby Eades Gale Baker

Signature

SL Beed

Printed name

Shannon L. Beech

Date

August 19, 2005

Reg. No.

53,924

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature

Typed or printed name

Date

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

AUG 26 2005



PTO/SB/17 (12-04v2)

Approved for use through 07/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Effective on 12/08/2004.

Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2005☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 100.00

Complete if Known

Application Number	10/777,113
Filing Date	February 13, 2004
First Named Inventor	MCGAUGHEY, Donald R. et al.
Examiner Name	BHAT, Aditya S.
Art Unit	2863
Attorney Docket No.	57064-A

METHOD OF PAYMENT (check all that apply)

☐ Check ☒ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☐ Deposit Account Deposit Account Number: _____ Deposit Account Name: _____

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee

☐ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☐ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims **Extra Claims** **Fee (\$)** **Fee Paid (\$)**

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims **Extra Claims** **Fee (\$)** **Fee Paid (\$)**

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
- 100 =	/ 50 =	(round up to a whole number) x		

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): Certificate of Correction

Fees Paid (\$)

\$100.00

SUBMITTED BY

Signature	<i>Shannon L. Beech</i>	Registration No. (Attorney/Agent)	53,924	Telephone	(613) 237-6900
Name (Print/Type)	Shannon L. Beech	Date	August 19, 2005		

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

AUG 26 2005



IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Applicant : MCGAUGHEY, Donald R. et al.
Patent No. : 6,876,944 *B2*
Issued : April 5, 2005
Serial No. : 10/777,113
Filed : February 13, 2004
Title : MOTOR SPEED ESTIMATION FOR STABILIZED
MOTOR CONTROL
Art Unit : 2863
Examiner : BHAT, Aditya S.

KIRBY EADES GALE BAKER
Box 3432, Station D
Ottawa, Ontario
CANADA K1P 6N9

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
United States of America

Dear Sir:

REQUEST FOR CERTIFICATE OF CORRECTION

The above identified patent issued on April 5, 2005. Upon receiving and reviewing the Letters Patent document, the following errors were noticed:

- Column 2, line 66: ' one f the ' should read ' **one of the** '
- Column 4, line 66: ' DF 1118 ' should read ' **CDF 118** '
- Column 7, line 3: ' known that that the ' should read ' **known that the** '
- Column 14, line 46: ' product).' ' should read ' **product).** '

08/23/2005 SSITHIB1 00000012 6876944

01 FC:1811

100.00 0P

.../2

AUG 26 2005



Claims 38-42 should read as follows:

38. A system for estimating a motor speed comprising:
- a correlation mechanism for determining a correlation between a current wave sensed at the motor and frequency pairs from a set of weighted frequency pairs representing the current wave;
 - a fitting mechanism for fitting components of a motor control signal to a corresponding number of first orthogonal pairs in a set of weighted orthogonal pairs, the orthogonal pairs being orthogonal to the frequency pairs;
 - a region determination mechanism for comparing a subharmonic from the current wave with a harmonics speed model to identify two regions in which to locate a corresponding harmonic, the subharmonic having a frequency less than a motor control signal;
 - a corresponding frequencies mechanism for identifying a harmonics pair of frequencies in the two regions having a separation from each other no greater than a smallest harmonic of the motor control signal, wherein **one of the** frequencies in the harmonics pair is the corresponding harmonic;
 - a speed estimation mechanism for comparing desired frequencies from the identified harmonics pairs with a harmonics speed model to determine an estimation of the speed; and
 - a controller in communication with the correlation mechanism, the fitting mechanism, the mse reduction mechanism and the speed estimation mechanism for coordinating the process of estimating the motor speed.
39. The system according to claim 38 wherein the fitting mechanism comprises:
- an orthogonal weights mechanism for determining the orthogonal weight for an orthogonal pair from the set of weighted orthogonal pairs based on the value of one of the frequency pairs; and
 - a frequency weights mechanism for determining the frequency weight for a frequency pair from the set of weighted frequency pairs based on the corresponding orthogonal weight.

.../3



Page 3
U.S. Patent and Trademark Office
Application Serial No. 10/777,113
August 19, 2005



40. The system according to claim 38 further comprising:
a CDF analysis mechanism for determining if a previous motor speed is classified as low and providing a supplement frequency component of the motor control signal to the fitting mechanism to be fit as a second pair of the orthogonal pairs if the previous motor speed is classified as low.
41. The system according to claim 38 further comprising:
a subharmonics mechanism for searching the current wave for subharmonics between 0Hz and the frequency of the motor control signal.
42. The system according to claim 38 further comprising:
a harmonics identification mechanism for locating harmonics in the regions.

Claims 38 to 42 were renumbered when the allowed application was prepared for publication as Patent No. 6,876,944. Neither the Applicant nor the owner was consulted regarding this. We request that the original claim numbering and order be restored and that a correction in the claim dependency of claim 42 (changed to claim 38 by the above publication preparations) be made.

Accompanying this request is form PTO/SB/44 which clearly shows the errors and necessary amendments and the required \$100.00 fee (credit card payment - Form PTO-2038).

Respectfully submitted,

Shannon L. Beech
Reg. No. 53,924
Tel. (613) 237-6900
Email@kirbyeades.com
Our File No. 57064-A
August 19, 2005

AUG 26 2005

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 1 of 2

PATENT NO. : 6,876,944 B2
APPLICATION NO.: 10/777,113
ISSUE DATE : April 5, 2005
INVENTOR(S) : MCGAUGHEY, Donald R. et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 2, line 66: ' one f the ' should read ' one of the '
Column 4, line 66: ' DF 1118 ' should read ' CDF 118 '
Column 7, line 3: ' known that that the ' should read ' known that the '
Column 14, line 46: ' product).' ' should read ' product).' '

Claims 38-42 should read as follows:

38. A system for estimating a motor speed comprising:

a correlation mechanism for determining a correlation between a current wave sensed at the motor and frequency pairs from a set of weighted frequency pairs representing the current wave;

a fitting mechanism for fitting components of a motor control signal to a corresponding number of first orthogonal pairs in a set of weighted orthogonal pairs, the orthogonal pairs being orthogonal to the frequency pairs;

a region determination mechanism for comparing a subharmonic from the current wave with a harmonics speed model to identify two regions in which to locate a corresponding harmonic, the subharmonic having a frequency less than a motor control signal;

a corresponding frequencies mechanism for identifying a harmonics pair of frequencies in the two regions having a separation from each other no greater than a smallest harmonic of the motor control signal, wherein one of the frequencies in the harmonics pair is the corresponding harmonic;

a speed estimation mechanism for comparing desired frequencies from the identified harmonics pairs with a harmonics speed model to determine an estimation of the speed; and

a controller in communication with the correlation mechanism, the fitting mechanism, the mse reduction mechanism and the speed estimation mechanism for coordinating the process of estimating the motor speed.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

KIRBY EADES GALE BAKER
P.O. Box 3432, Station D
Ottawa, Ontario K1P 6N9 CANADA

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

AUG 26 2005